

AMENDMENT UNDER 37 C.F.R. §1.116  
EXPEDITED PROCEDURE  
APPLN. NO. 10/782,928

DOCKET NO. Q79936  
GROUP ART NO. 2872

**AMENDMENTS TO THE DRAWINGS**

Corrected Fig. 11 is being submitted herewith concurrently with claim amendments in order to overcome the Examiner's objections to the drawings for failing to show all claim elements, specifically the relationship of X, Y, OD, and  $\tan l'$  as recited in claims 1, 2, 14, and 15. Applicant also notes that  $\tan l'$  has been replaced by its numerical value.

Attachment: Replacement Sheet  
New Sheet(s)

**REMARKS**

Claims 1-24 are currently pending in this application.

**I. Drawings.**

The Examiner objects to the substitute drawings filed on June 23, 2005, under 37 C.F.R. §1.83(a) because the relationship between “X”, “tan (1’)”, “Y” and “D” is not explicitly illustrated. Accordingly, a replacement sheet for Fig. 11 is being filed concurrently herewith, wherein the relationship between elements X”, “tan (1’)” and “D” is identified . Claims 2 and 15 are amended in a manner to obviate the need to show “Y” with respect to “tan (1’)” and “D”. In addition tan(1’) has been replaced by its numerical value in the respective claims. Therefore, the Examiner is respectfully requested to withdraw the objection to the drawings.

In addition, the Examiner objects to the drawings because reference character “D” is shown in the drawings as the *distance from the most distant point* to the display panel and claimed in claims 1 and 14 as the *distance from midpoint* to the display panel, whereas claims 1 and 14 were previously amended to indicate the distance (D) in the normal direction between the display panel and a viewer’s midpoint, which is designated as “OD” in the figures. Claim 14 is herein amended to recite OD as the distance from the display to the midpoint. Claim 1 is herein amended to recite D as the distance from the display to a point within the three dimensional viewing range. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

**II. Claim Objections.**

The Examiner objects to claims 1-24 due to various informalities as stated in numbered paragraph 6 on page 5 of the Office Action.

Claims 1, 2, 6, 14, and 19 are herein amended to more particularly distinguish array and perpendicular directions.

Claims 1, 2, 14, and 15 are herein amended to more particularly describe the angle  $1'$  in relation to the respective claim subject matter, giving physical meaning to  $\tan\alpha$ , where  $\alpha=1'$ , and further  $\tan(1')$  is replaced by its numerical equivalent.

As to "D" in claims 1 and 14, claim 14 is herein amended to require a distance OD from the midpoint to the display, while claim 1 is amended to require a distance D from the display panel to a point within the three-dimensional viewing range. In light of the amendments described above and contained herein, withdrawal of the objections to claims 1-24 is respectfully requested and deemed appropriate.

### **III. 35 U.S.C. §112, 1<sup>st</sup> paragraph.**

The Examiner rejects claims 4, 5, 9, 10, 17, 18, 22 and 23 as allegedly failing to comply with the enablement requirement under 35 U.S.C. §112, 1<sup>st</sup> paragraph. Said claims are herein amended to more particularly claim slits and lens periodically arranged in a horizontal direction and are now asserted as being enabled for one of ordinary skill in the art<sup>1</sup> to make and use the claimed subject matter without undue experimentation. More particularly, "extending" has been deleted and the horizontal and vertical directions are more particularly described relative to each other and the surface of the display panel. Claims 14-18 and 19-23 are amended to clearly define

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<sup>1</sup> [http://www.crystalcanyons.net/Pages/3DGuidebook/ViewingMethods\\_PrintDisplay.htm](http://www.crystalcanyons.net/Pages/3DGuidebook/ViewingMethods_PrintDisplay.htm)

the first direction and the second direction, while the structure of the parallax barrier and the lenticular lens have been clarified. As to eyes being in a horizontal line, Applicant agrees. Withdrawal of the rejection of claims 4-5, 9-10, 17-18, and 22-23 as failing to comply with the enablement requirement under 35 U.S.C. §112, 1<sup>st</sup> paragraph is respectfully requested and deemed proper.

**IV. 35 U.S.C. §103(a).**

The Examiner rejects claims 1, 3, 6, 8, 11-14, 16, 19, 21 and 24 as allegedly being unpatentable over *Momochi* (U.S. Patent No. 5,528,420) under 35 U.S.C. §103(a). Applicant respectfully traverses this rejection.

Claims 1, 6, 14, and 19. *Momochi* teaches refracted light incident upon picture elements B at an angle directed towards the left eye relative to the image normal and refracted light upon picture elements C directed towards the right eye relative to the image normal (Figs. 10, 11 and 13; col. 11, lines 24-55). Images can be printed directly onto a lenticular lens sheet (col. 6, lines 63-65). The pitch of the picture elements is adjusted to coincide with the pitch of the lens, meaning the “pitch” of the lens refracted light (angle  $\emptyset$ ). Lens refracted light is then incident upon the image. Light incident upon the lens (angle  $\theta$ ) originates from the viewer’s side (Fig. 13; col. 11, lines 40-58).

In contrast, claims 1, 6, 14, and 19 require, “. . . an optical unit that emits light *emitted from the pixels* displaying said image for the right eye . . .”. The light in *Momochi* directed towards the viewer’s eyes through the lenticular lens originates from light *reflected by* the picture elements. *Momochi* fails to teach or suggest light *emitted from* the picture elements is directed

toward the L and R eye of the viewer. At least for failing to teach or suggest an optical unit that emits light emitted from the pixels, the rejection of claims 1, 6, 14, and 19 as unpatentable over *Momochi* under 35 U.S.C. §103(a) should be withdrawn.

Claims 1 and 14 are further patentable on second grounds. *Momochi* teaches a pitch  $p$  for the lenticular lens (for example, col. 4 lines 27-33) *Momochi* further teaches, “. . . setting the pitch of each set of picture elements *smaller at a peripheral* portion of a lenticular lens device . . . *than at the central* portion of the lenticular lens device . . .” (col. 4, lines 35-41). *Momochi* clearly teaches setting the pitch of each set of picture elements smaller at the periphery as compared to the pitch of each set of picture elements near the center, while the lens pitch  $p$  is constant across the image. As the horizontal distance from the viewpoint to the lens center is defined as  $x$ , then the distance of which a ray of light advances in the same direction  $x$  is defined as  $s$  (col. 11, lines 53-67; Fig. 13). The incident angle  $\theta$  increases as the distance  $x$  increases, and obviously both  $x$  and  $\theta$  will increase moving towards the periphery. The distance  $s$  is defined as the distance from the center of the lens to the point of light incident upon the picture element (light first refracted by the lens) (col. 11, lines 54-56). The change in  $s$  relative to the change in  $x$  is given as a function of  $\theta$  (col. 12, lines 1-5). “As  $\theta$  increases from 0, the value of the necessary image output pitch variation,  $\epsilon$ , decreases gradually.” (col. 12, lines 6-9; col. 12, line 22).

In contrast, Applicant claims a definition as a function of the distance ( $D$ ) in the normal direction from the display panel to the viewer. Further, Applicant defines this function in terms

of a minimum viewing angle of 1', the tangent of which is 0.000291. Further, Applicant's definition will be constant for a given distance (D).

*Momochi* specifically discloses and teaches a definition, picture element pitch, which varies incrementally toward the periphery of the display panel for a given distance (D). Neither in the text at large, nor in the text cited by the Examiner, does *Momochi* disclose a minimum viewing angle. *Momochi* teaches away from Applicant's claimed constant definition for a given distance, D, by teaching an incremental variation in picture element pitch. At least for failing to teach or suggest a constant definition for a given distance, D, as a function of a 1' minimum viewing angle, the alleged obviousness rejection of claims 1 and 14 over *Momochi* under 35 U.S.C. §103(a) should be withdrawn.

Claims 3, 6, 8, 11-13, 16, 21 and 24 are asserted as being allowable at least by virtue of their dependence upon an allowable claim.

The Examiner rejects claims 2, 4, 7, 9, 15, 17, 20 and 22 as allegedly being unpatentable over *Momochi* as applied to claims 1, 6, 14 and 19 above, and further in view of *Isono, et al.* (U.S. Patent No. 5,315,377) ("*Isono*") under 35 U.S.C. §103(a).

Claims 2, 4, 7, 15, 17, 20, and 22 are asserted as being allowable at least by virtue of their dependence upon an allowable claim.

The Examiner rejects claims 5, 10, 18 and 23 as allegedly being unpatentable over *Momochi* as applied to claims 1, 6, 14 and 19 above, and further in view of *Chikazawa* (U.S. Patent No. 5,852,512) under 35 U.S.C. §103(a). Applicant respectfully traverses this rejection.

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Claims 5, 10, 18, and 23 are asserted as being allowable at least by virtue of their dependence upon an allowable claim.

In view of the preceding amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited. If there are any points remaining in issue that the Examiner feels may be best resolved through a personal or telephonic interview, she is kindly requested to contact the undersigned at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue/Publication Fees) to our Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

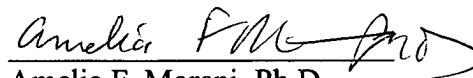
Respectfully submitted,

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**23373**

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